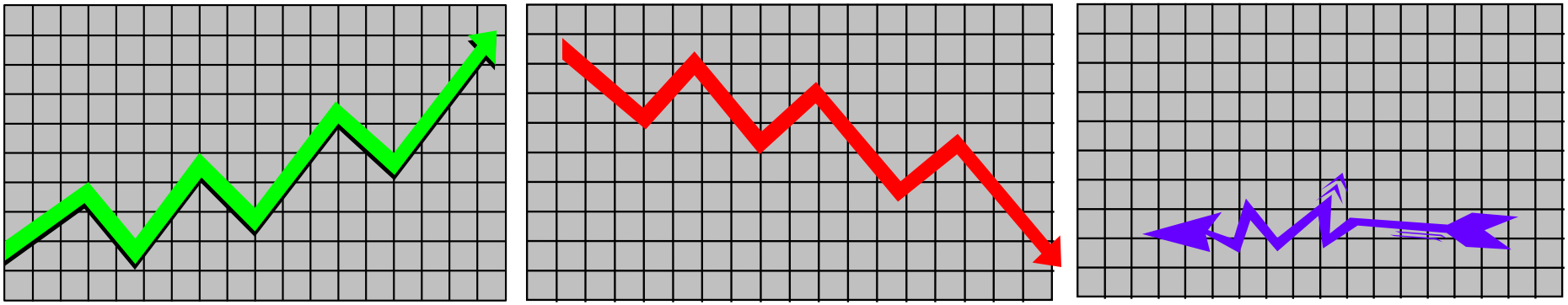

U. S. ARMY
ANALYSIS & FORECASTING TOOLS
for Civilian Workforce Planning

CIVFORS INTRODUCTION

CIVFORS Characteristics

- Projects for seven years using five years of historical data
  - Includes manpower target data (SAMAS)
  - Projects accession requirements, separations (by type)
  - Can optimize to target levels or run “as is”
- 16 dimensions available for focusing on different populations
- Installation-level data now available

Fundamental CIVFORS Applications

- What are the accession requirements over the next seven years?
  - Overall, or by installation, occupation, grade level, career program, MACOM, or any combination of these or other dimensions
- What are the projected losses over the next seven years?
  - Can identify by retirements, resignations, or involuntary separations
  - Overall, or by installation, occupation, grade level, career program, MACOM, or any combination of these or other dimensions

Forecasting Tool (CIVFORS)

Purpose: Anticipate future impacts on workforce so you can plan in of react -

- Get ahead of the curve
- Play out the 'what ifs' so you know the effects of the least and the most like
- Forecasts may be just a look at what would happen if nothing changed or may be goal driven
- The goals you forecast against may be driven by budget, demand for servic or other foreseen changes such as contracting out, etc.

Basic Questions:

- Given two retirement waves and need to stabilize population size, what are the accession requirements?
- What are the projected intern requirements?
- How long will it take to get to a balanced workforce in age and years of serv

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Uses in planning/policy:

- Based on projected job fill needs: How many employees in what occupation when do we need to hire?
- Can the current personnel strategies get us there?
- If not, what do we need to do?

Large-scale data processing -

Current Model has the following capabilities

- Reports 16 different strength dimensions in inventory from more than 700,000 records in history & projections - all combinations available
- Reports 6 additional manpower dimensions in authorizations
- Reports 5 years of historical data
- Provides 7-year forecasts w/ & w/o optimization

With Flexible Forecasting System (Version 3)

Sample of one user's actual CIVFORS applications

Requirement

Project overall Army gains necessary to maintain the workforce levels stable for FY 02, 03, 04, 05, 06, and 07.

Projected gains at three levels. The first is MACOM X. The second would be HQS, and Subordinate Commands. The third is one level below this (FOA).

Report projections by Occupational Series and Grade Level.

CIVFORS Projections are bas

- Life-cycle modeling of the civilian workforce

- Most significant events that describe the life cycle path
  employees in the Army which include
  - Accessions
  - Promotions
  - Reassignments
  - Retirements
  - Voluntary Separations
  - Involuntary Separations

- Time series forecasting techniques to compute probabi
  occurrence for modeled life cycle events

- Personnel characteristics (membership in groups) from
  workforce are used as predictors of modeled behavior

- Historical and assumed future changes in characteristi
  and behaviors of the workforce drive the forecasts

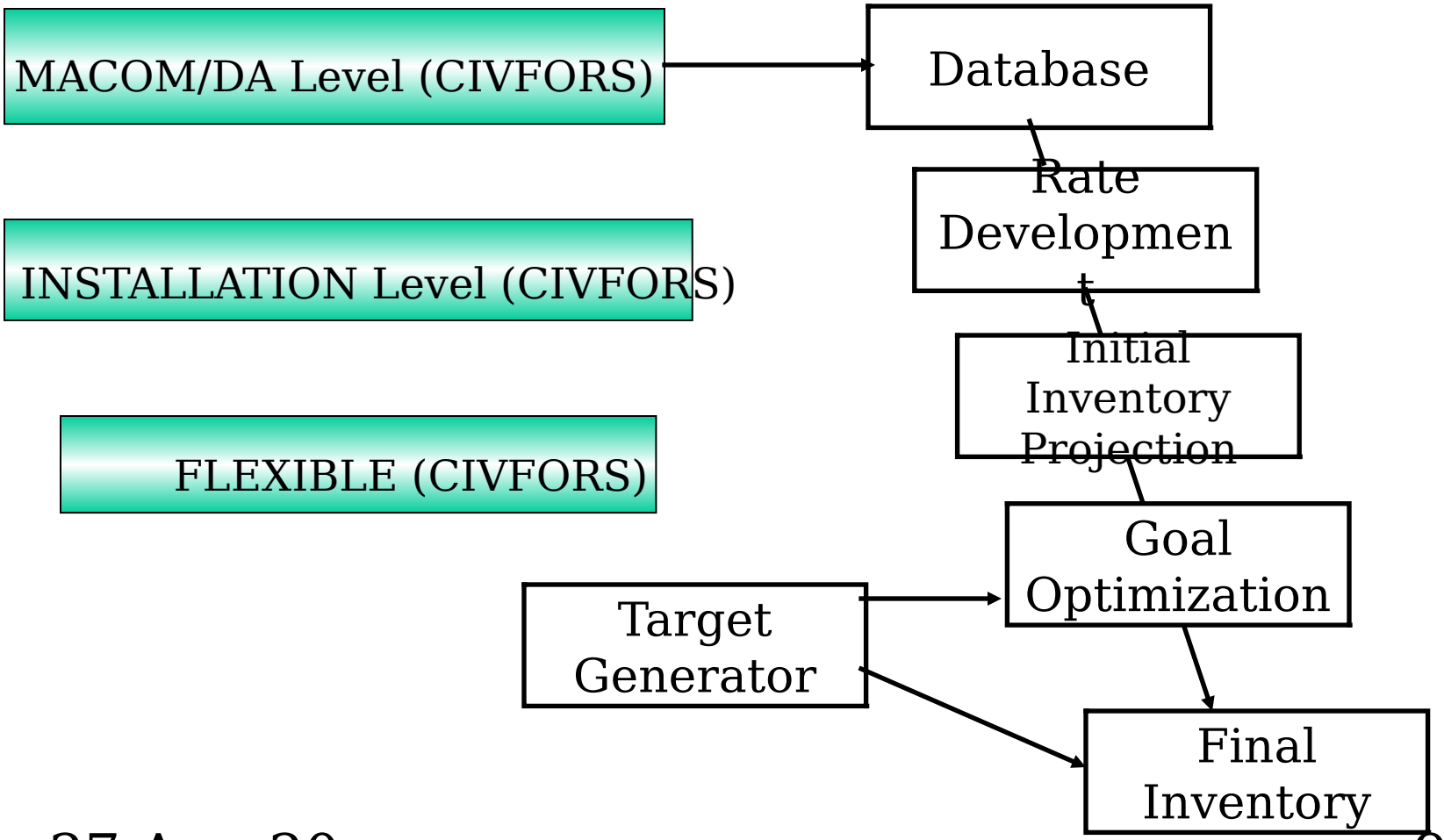
Dimension Combinations used in Projections

Current Model has the following capabilities: 16 d dimension combinations

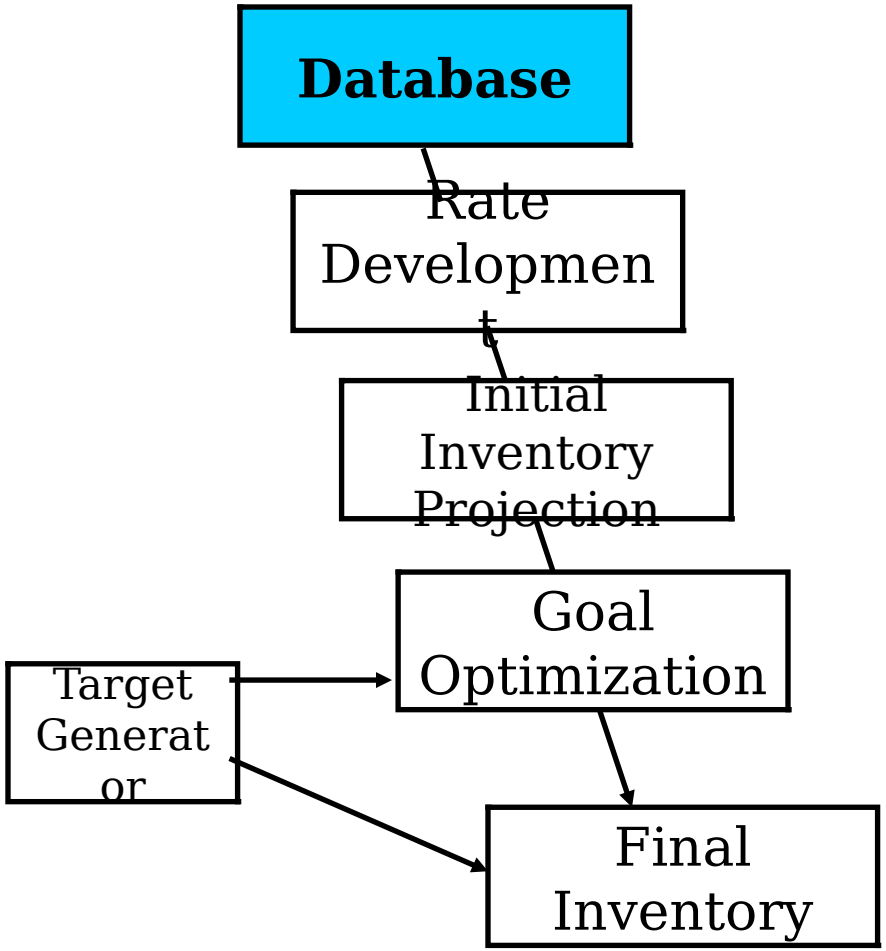
- ***Major Command***
- ***Grade***
- ***Career Program***
- ***Blue/White Collar Code***
- ***Function Designator***
- ***Employee Tenure***
- ***Years of Service Group***
- Pay Plan Group
- Gender
- Race/National Origin
- Appointment Type
- Supervisory Code
- Work Schedule
- Age Group
- PATCO
- Occupational Series

With Flexible Forecasting System (Version 3) more dimensions

How CIVFORS Works
at all levels

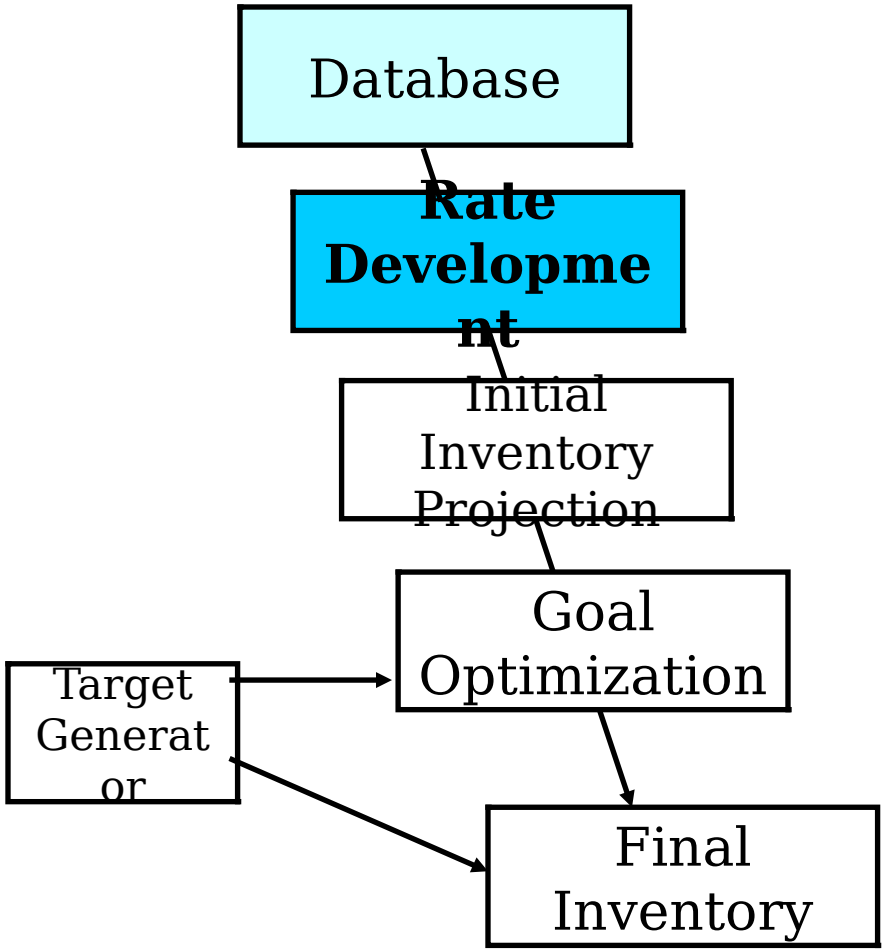


Step 1: Database



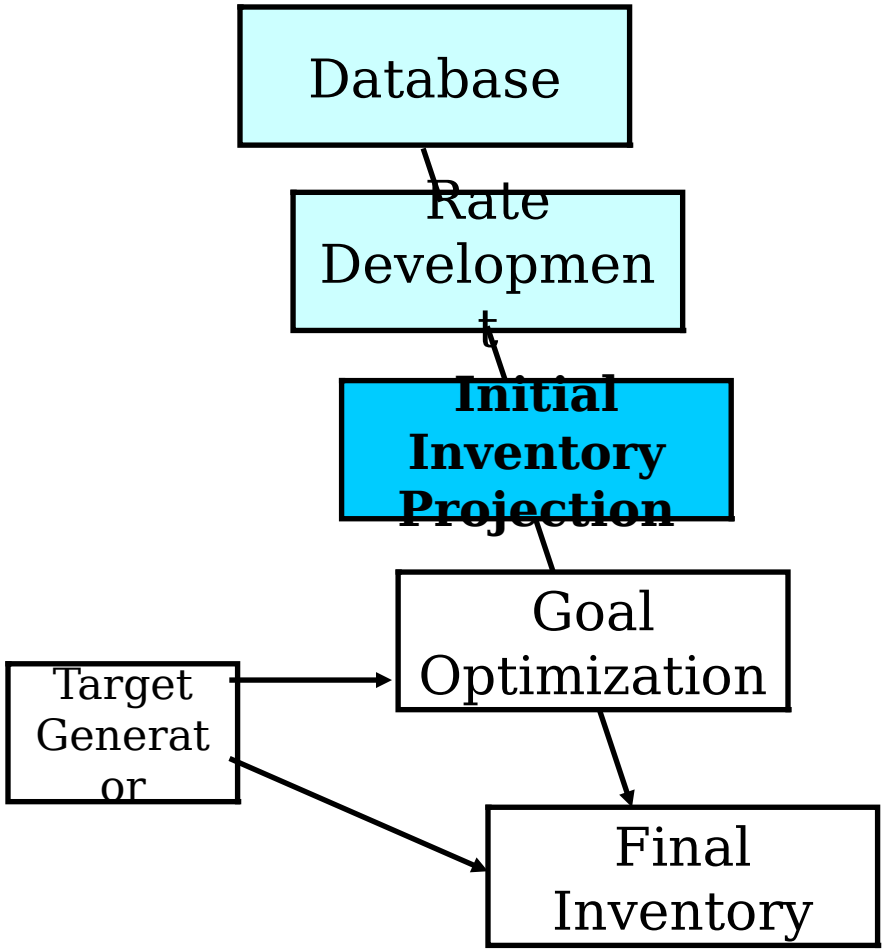
- 5 years of monthly data
- Divided into cells along model dimensions
- 7 dimensions: MACOM, YOSG, CP, Grd, Emp Tenure, Func Desig, Collar

Step 2: Rate Development



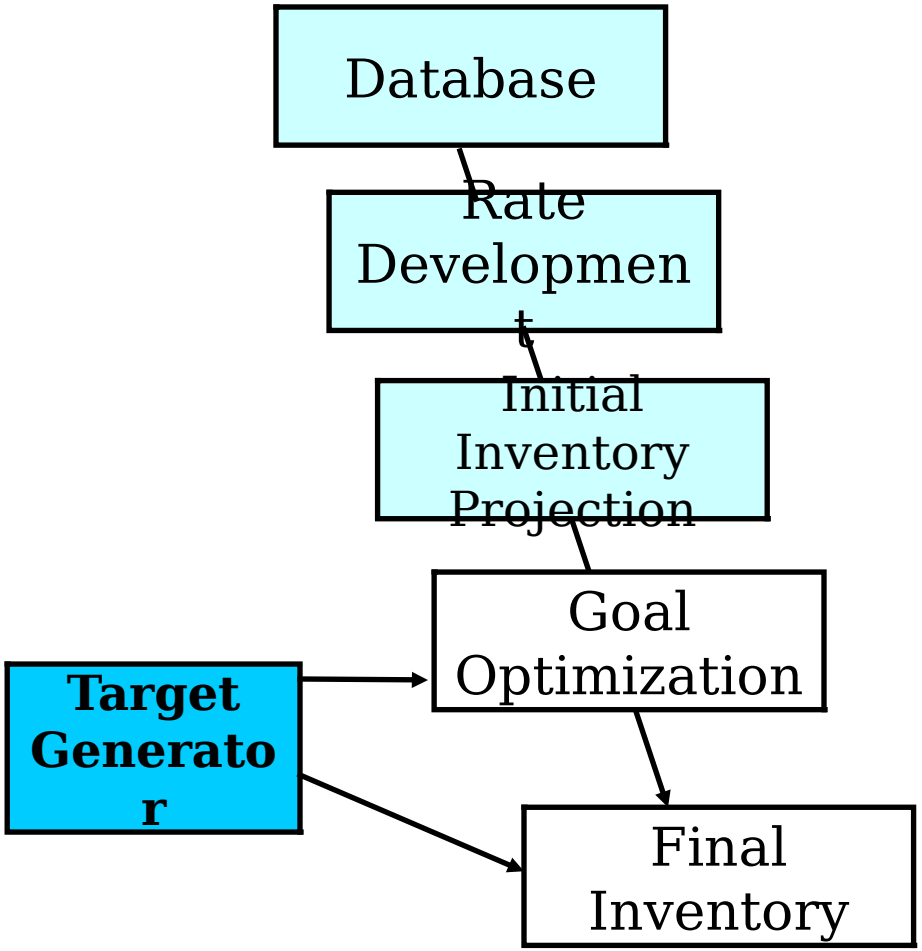
- Rates are calculated for significant events (accession, promotion, separation, etc.) for each cell
- Ex: No. of retirements during the month divided by number of employees in the cell at the beginning of the month

Step 3: Initial Inventory Projection



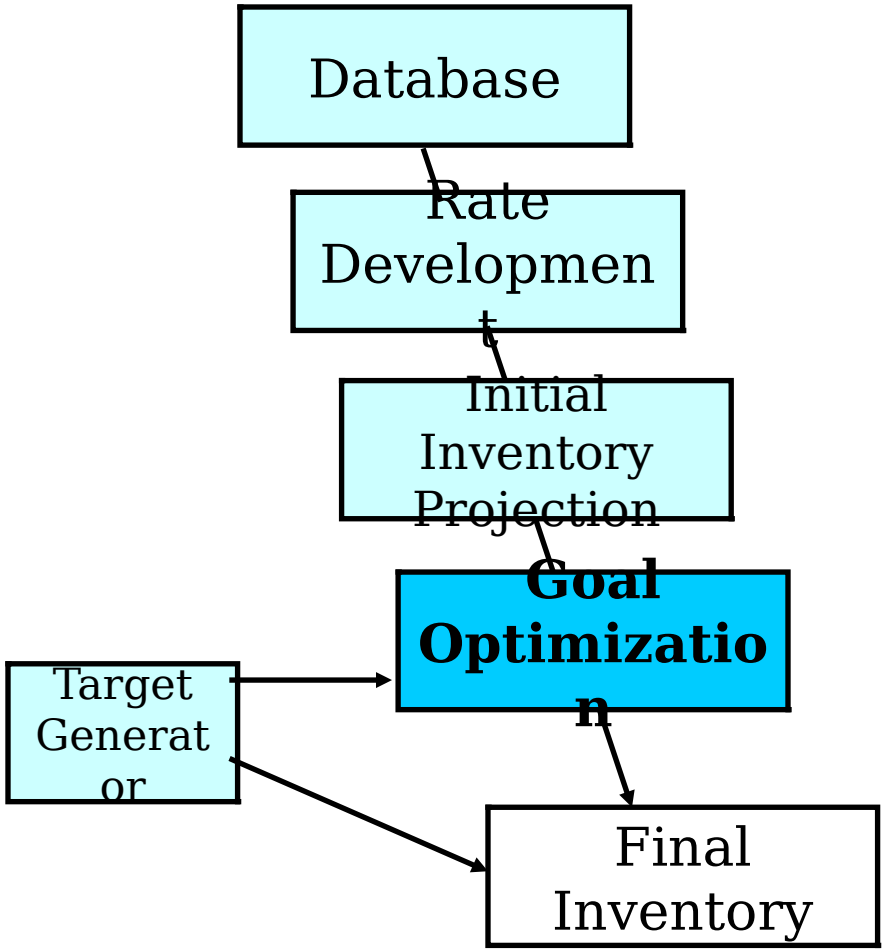
- Age the workforce for each quarter for 7 years out.
- Apply the calculated rates to each cell.
- Weighted most heavily for most recent year.

Target Generator



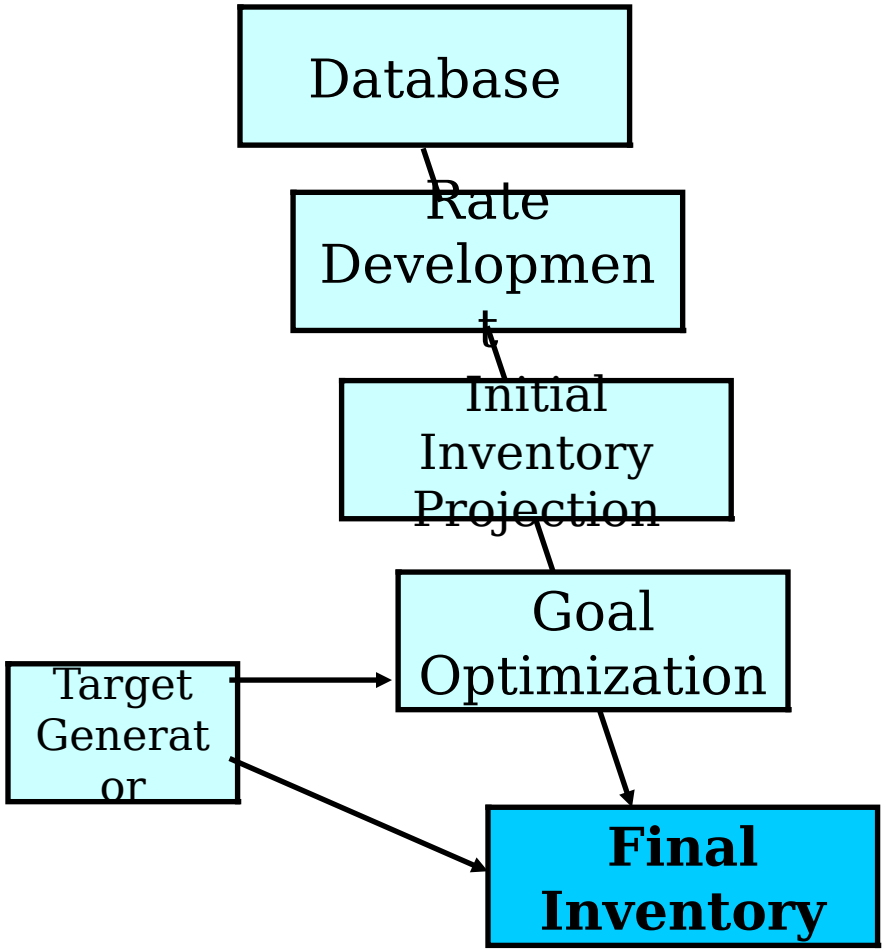
- Target data is provided by SAMAS, at MACOM level (budgeted and authorized numbers)
- Issued two times a year

Step 4: Goal Optimization



- Goal vs. No-Goal
- Adjust rates where warranted
- Iterative projection process
- Strive to meet targets

Step 5: Final Inventory



- No Goal: Final inventory is projection of history
- Goal assumptions: Optimization occurs at MACOM, CP, and Grade. SAMAS is MACOM. “Salami slice” within the MACOM.

Types of Projections

1. *Baseline* - NO GOAL, if the past 5 years history were to repeat itself here would we end up in the next 7 years?

2. *Baseline* - GOAL - with target = budgeted/authorized spaces or other history repeats, will we be able to meet targets over the next 7 years?

3. *What if* - *Simple Assumptions* - If future rates were different i.e., history did not repeat itself against a given set of targets what would happen over the next 7 years?

4. *What if* - *Complex/Multiple Assumptions* - If "what ifs "can be translated into specific terms, can model impacts;

Hands-on:
CIVFORS 101

Four Projections

- Validity
  - Are projections close to actuals?
- Targets
  - Are targets close?
- Projections and Targets
  - Does projected strength seek targets?
- Accession Requirements
  - Do you have accession requirements that are higher than if you did nothing?

Pre-Built Scenarios

- **No Goal** (history repeats itself)
- **Goal**
- **Goal - Steady State with 15% increase in retirements**